IN THE CLAIMS:

Please amend the claims as follows:

1.   (Currently Amended)   An assist transportation method for reducing a load applied to an operator when the operator operates a transportation means to transport a product, the method comprising:

floating the product from the transportation means when the product contacts with an obstacle to moderate an impact;

detecting a displacement value of the product due to the floating;

computing ~~the displacement value to compute~~ a reaction force using the detected displacement value due to the impact; ~~by~~

computing a subtraction force by subtracting the reaction force from an assist driving force generated by a motor; and

communicating the computed ~~reaction~~ subtraction force to the operator who operates the transportation means powered by the motor.

2.   (Currently Amended)   An assist transportation device for reducing a load applied to an operator when the operator operates a transportation means to transport a product, comprising:

a motor for performing assist driving;

a holding means for holding the product;

a floating mechanism corresponding to a connection portion between the holding means and the transportation means;

a displacement detection means for detecting a displacement value of the floating mechanism; and

control means for computing ~~the displacement value detected by the displacement detection means and computing~~ a reaction force using the detected displacement value, a subtraction force by subtracting the reaction force from an assisted driving force generated by the motor, wherein the control means communicates the ~~reaction~~ subtraction force to the operator who operates the transportation means through the motor ~~by subtracting the reaction force form the assist driving force generated by the motor~~.

3.   (Withdrawn)   An assist transportation method for reducing a load applied to a worker when the worker operates transportation means to transport a product, characterized by setting a work area in which the product can freely move and setting a limit area formed adjacently to the work area to generate a predetermined reaction force so as to return the product to the work area when the product comes in.

4.   (Withdrawn)   An assist transportation device for reducing a load applied to a worker when the worker operates transportation means to transport a product, comprising a work area in which the product can freely move, and a limit area formed adjacently to the work area to generate a predetermined reaction force so as to return the product to the work area when the product comes in, and control means for computing the entering value of the product entering the limit area and the reaction force.

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5.   (**Withdrawn – Previously Presented**) An assist transportation method for reducing a load applied to an operator when the operator operates a transportation means to transport a product, the method comprising:

detecting an operation force direction and magnitude when the operator holds the product and transfers the transportation means in a direction for transporting the product;

detecting an external force direction and magnitude when the product contacts with an obstacle; and

computing an operation force and the external force magnitude and direction to assist-transport the product as a target value of the transportation means.

6.   (**Withdrawn – Previously Presented**) An assist transportation device for reducing a load applied to an operator when the operator operates a transportation means and transports a product, the device comprising:

a holding means for holding the product,

an operation handle corresponding to the holding means for the operator to lead the product in a desired direction;

an operation force detection means for detecting an operation force direction and magnitude applied to the operation handle;

an external force detection means corresponding to the connection portion between the holding means and the transportation means for detecting an external force direction and magnitude applied to the holding means; and

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a control means for computing an operation force detected by the operation force detection means and the external force direction and magnitude detected by the external force detection means and assist-transporting the product as a target value of the transportation means.

7.   (Withdrawn)   An assist transportation method for reducing a load applied to a worker for operating an operation handle set to transportation means and transporting a product, characterized by detecting the direction and magnitude of an operation force applied to the operation handle when the worker operates the product in a direction for transporting the product, detecting the direction and magnitude of an external force when the product contacts with an obstacle, computing the direction and magnitude of the external force, assist-transporting the product as the target value of the transportation means, and communicating a reaction force due to the external force to the worker.

8.   (Withdrawn)   An assist transportation device for reducing a load applied to a worker for operating an operation handle set to transportation means and transporting a product, comprising holding means for holding the product, operation force detection means for detecting the direction and magnitude of an operation force applied to the operation handle set to the connection portion between the holding means and the transportation means, external force detection means set to the connection portion between the holding means and the transportation means to detect the direction and magnitude of an external force applied to the holding means, and

control means for computing the direction and magnitude of the operation force detected by the operation force detection means and the direction and magnitude of the external force detected by the external force detection means and assist-transporting the product as the target value of the transportation means, characterized by communicating a reaction force due to the external force to the worker.

9. **(Withdrawn)** An assist transportation method for reducing a load applied to a worker for operating transportation means and transporting a product, characterized by detecting the direction and magnitude of an operation force when the worker grips the product and moves the transportation means in a direction for transporting the product, computing the direction and magnitude of the operation force, and assist-transporting the product as the target value of the transportation means.

10. **(Withdrawn)** An assist transportation device for reducing a load applied to a worker for operating transportation means and transporting a product, comprising holding means for holding the product, an operation handle set to the holding means for the worker to lead the product in a desired direction, external force detection means set to the connection portion between the holding means and the transportation means to detect the direction and magnitude of an external force applied to the holding means, and control means for computing the direction and magnitude of the external force detected by the external force detection means and assist-transporting the product as the target value of the transportation means.

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11.   **(Withdrawn)**   An assist transportation method for reducing a load applied to a worker when the worker operates transportation means to transport a product, comprising a condition setting step of setting a transportation area and an assist condition every predetermined position of a transportation route and a transportation area setting step of setting a transportation area and assist condition between predetermined positions adjacent to each other in accordance with a transportation area and assist condition every predetermined position set in the condition setting step, characterized by setting the transportation area of a component.

12.   **(Withdrawn)**   An assist transportation method for reducing a load applied to a worker when the worker operates transportation means to transport a product, comprising a transportation area recognizing step of recognizing a transportation route and a transportation area in accordance with the position data for a plurality of teaching points and transportation area data set for each teaching point and a transportation portion position moving step of obtaining a transportation route closest to the position of a transportation portion when the position of the transportation portion is out of a transportation area and moving the transportation portion into a predetermined position of the obtained transportation route or the transportation area of the obtained transportation route, characterized by returning the transportation portion into the transportation area when the position of the transportation portion for supporting the product is deviated from the transportation area.